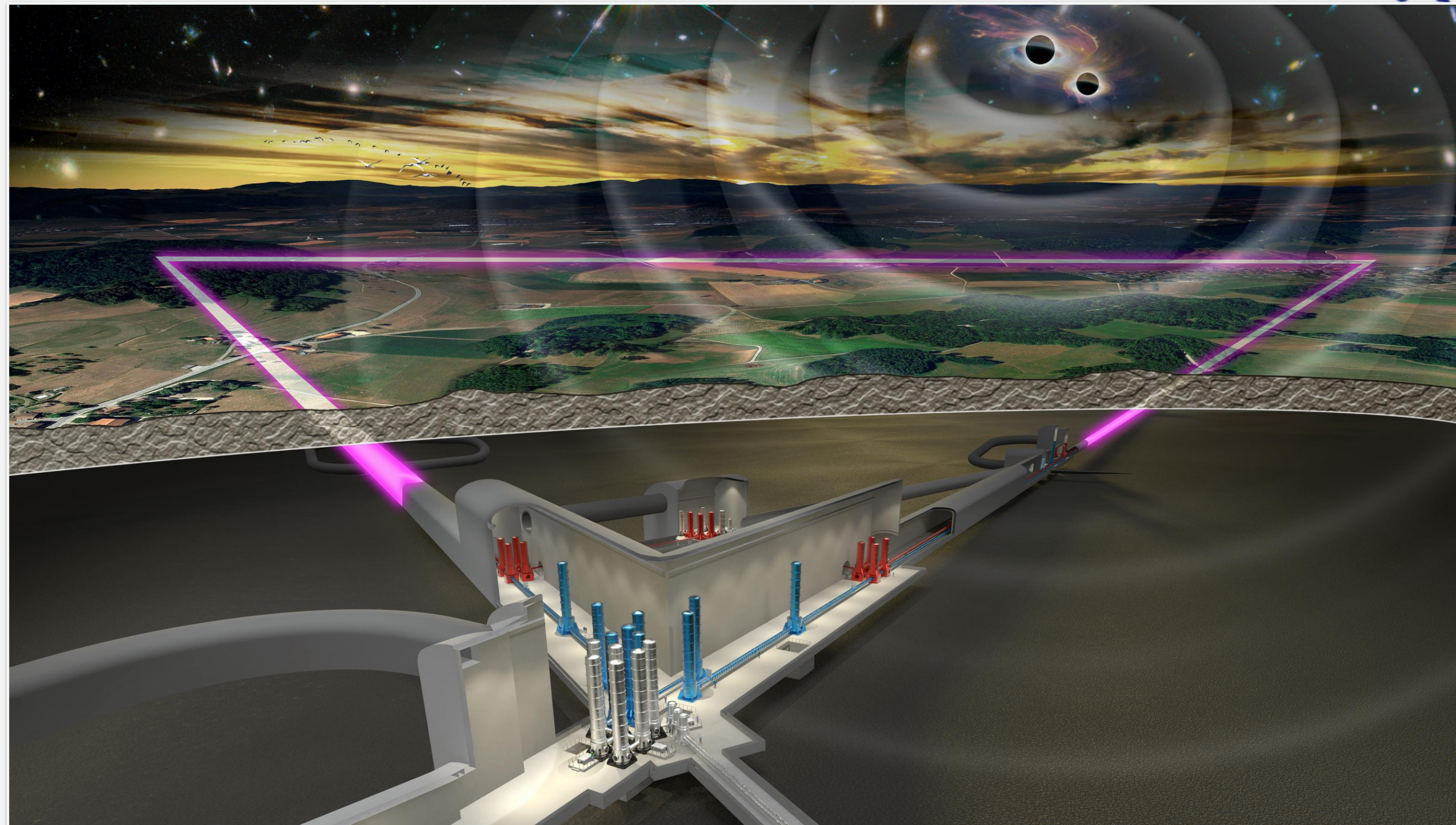
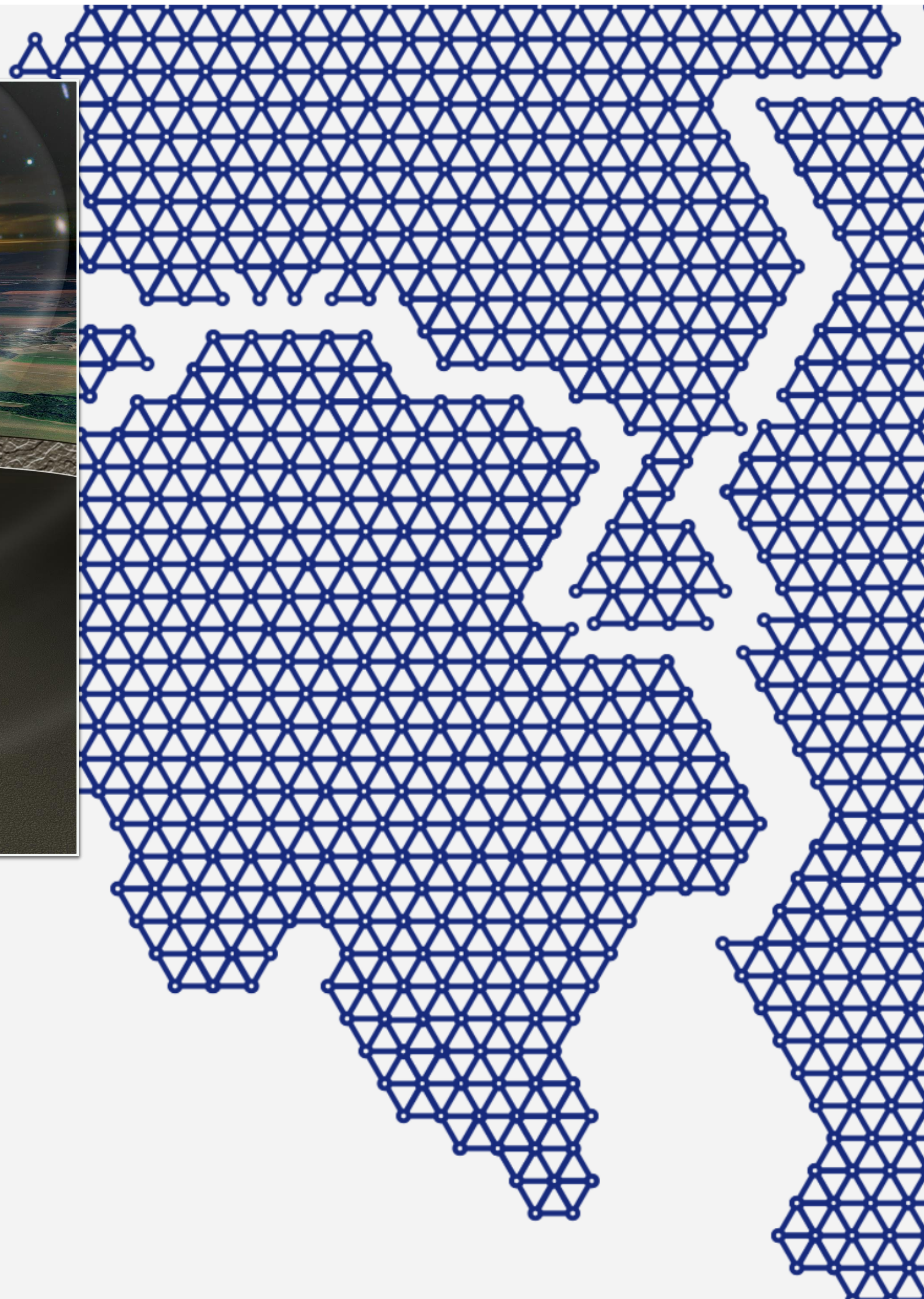




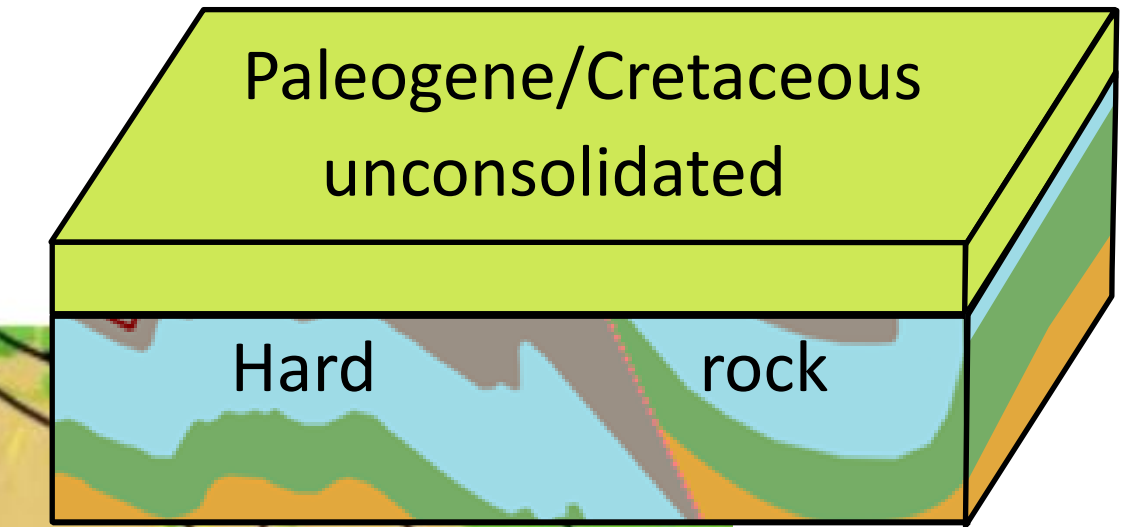
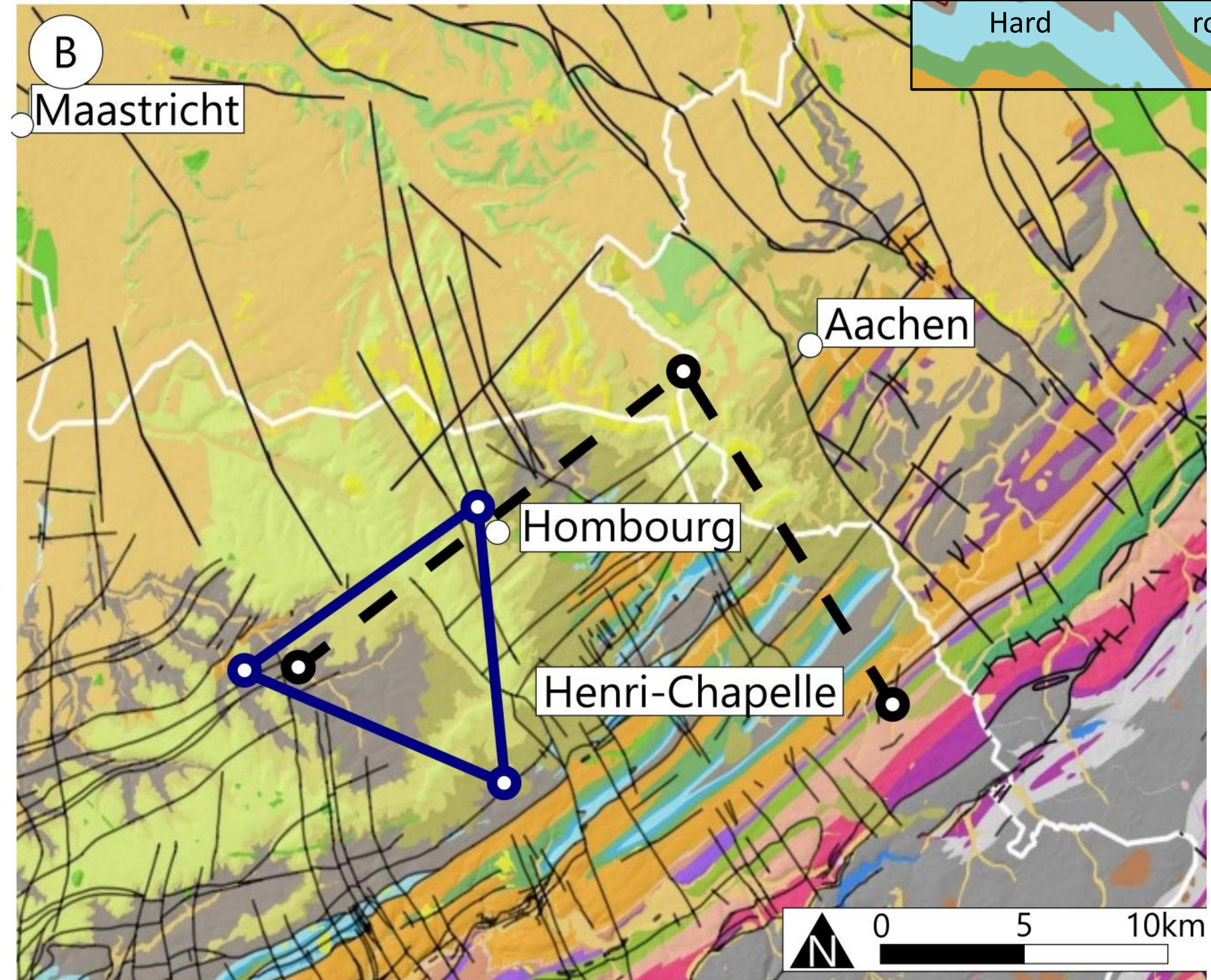
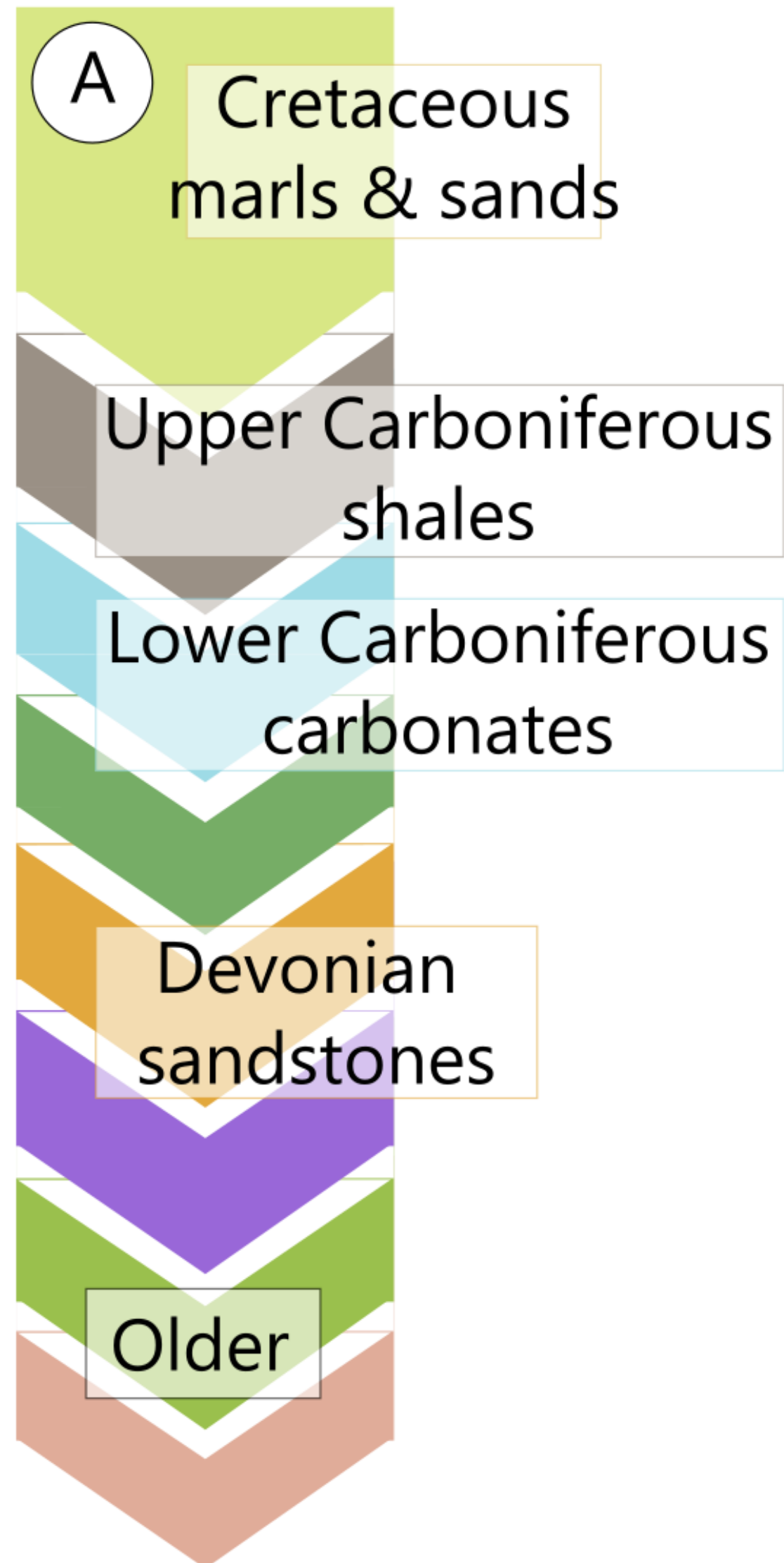
UPDATE ON GEOLOGY AND OPTIMIZATION OF TRIANGLE POSITIONING IN THE ET-EMR REGION

Hannes Claes (KU Leuven) et al.

ET annual meeting - November 11, 2025



Geology ET EMR



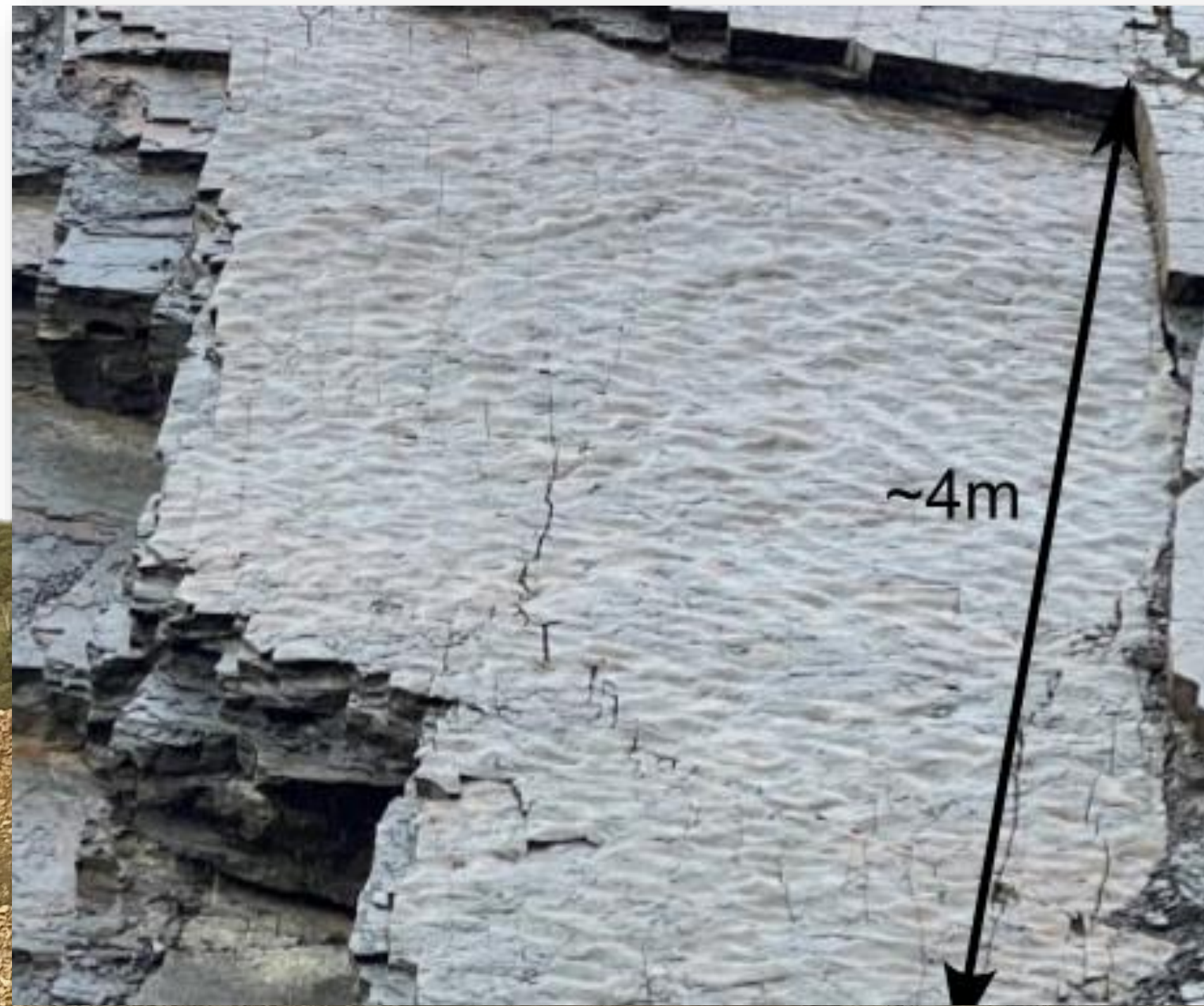
“Upper Carboniferous / Namurian shales”



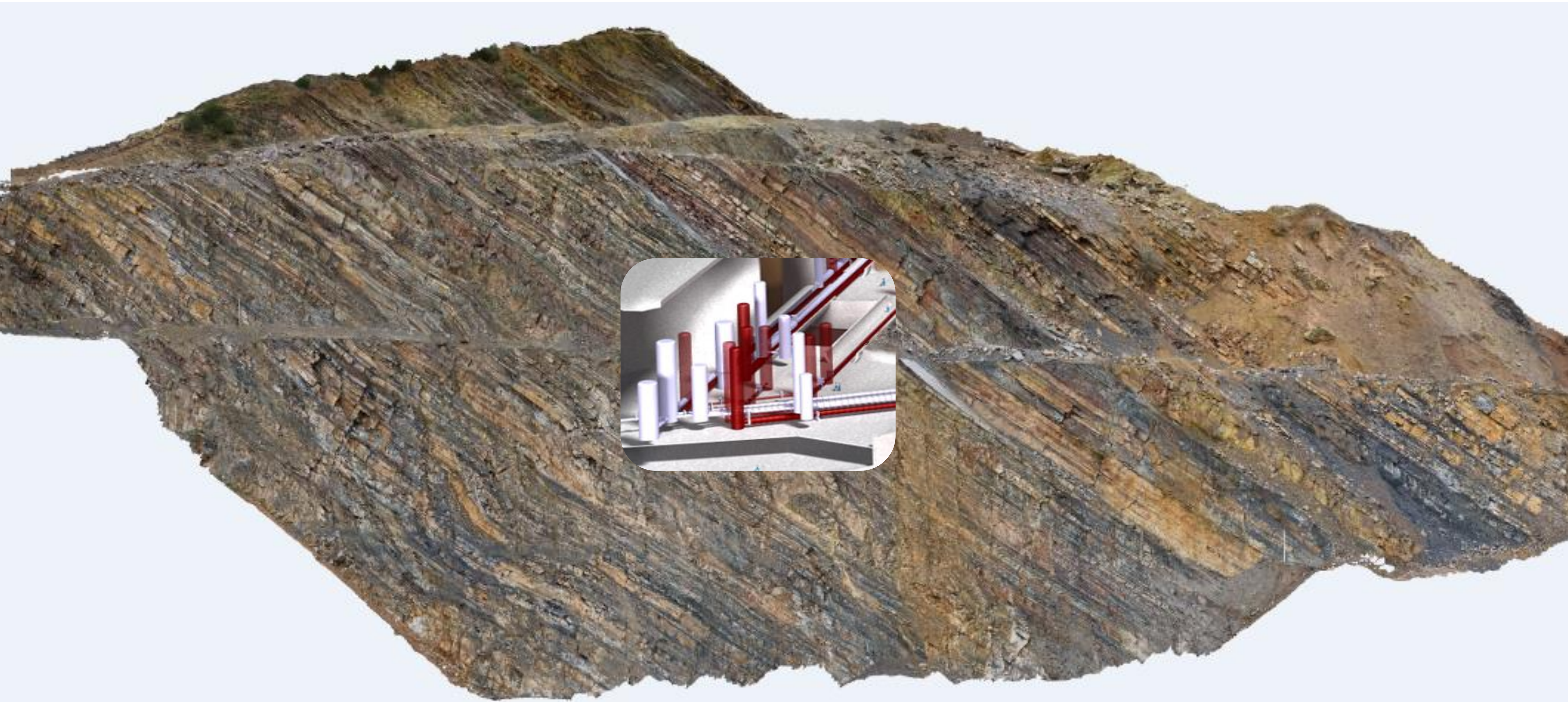
“Lower Carboniferous / Dinantian carbonates”



“Upper Devonian / Famennian sandstones”

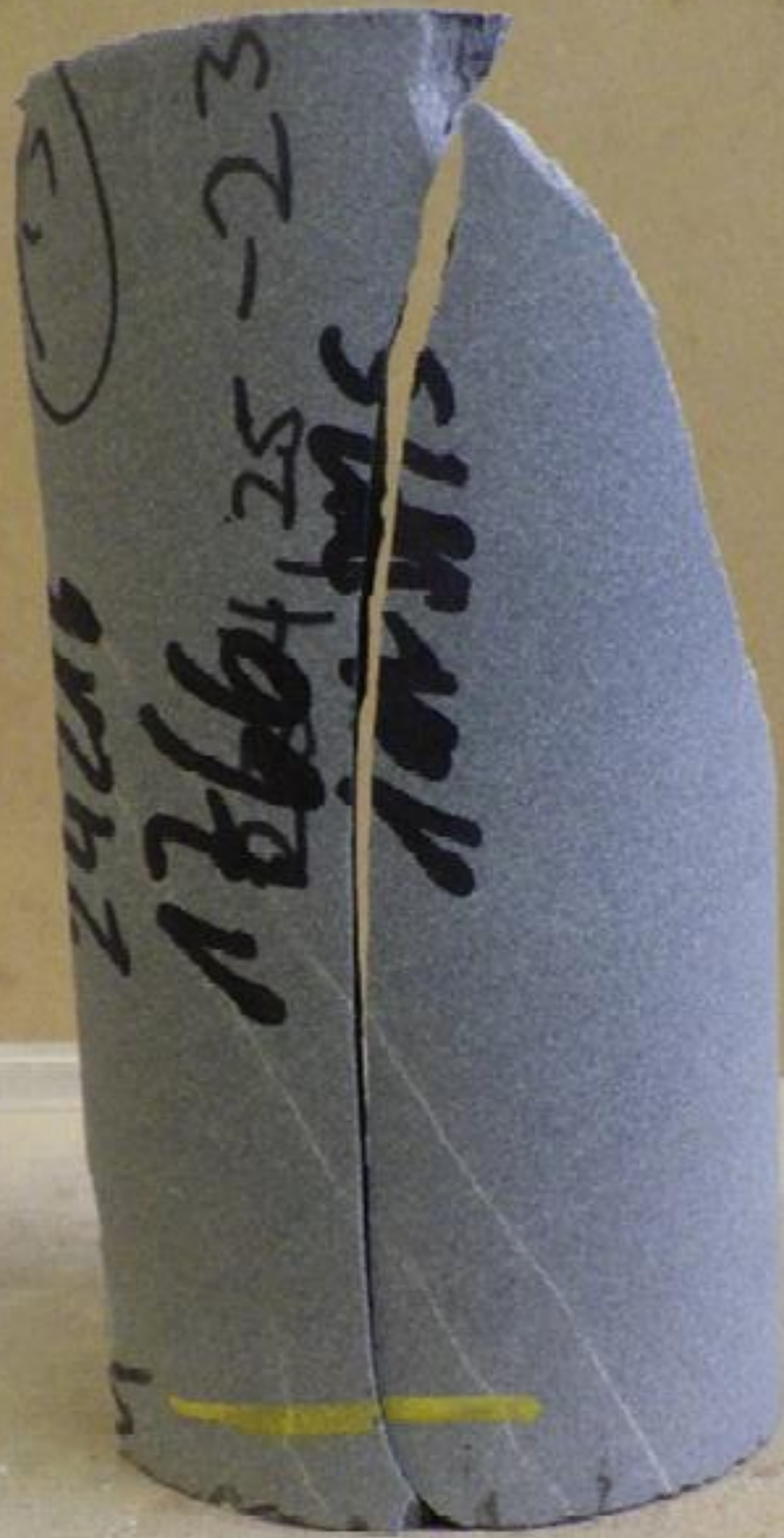










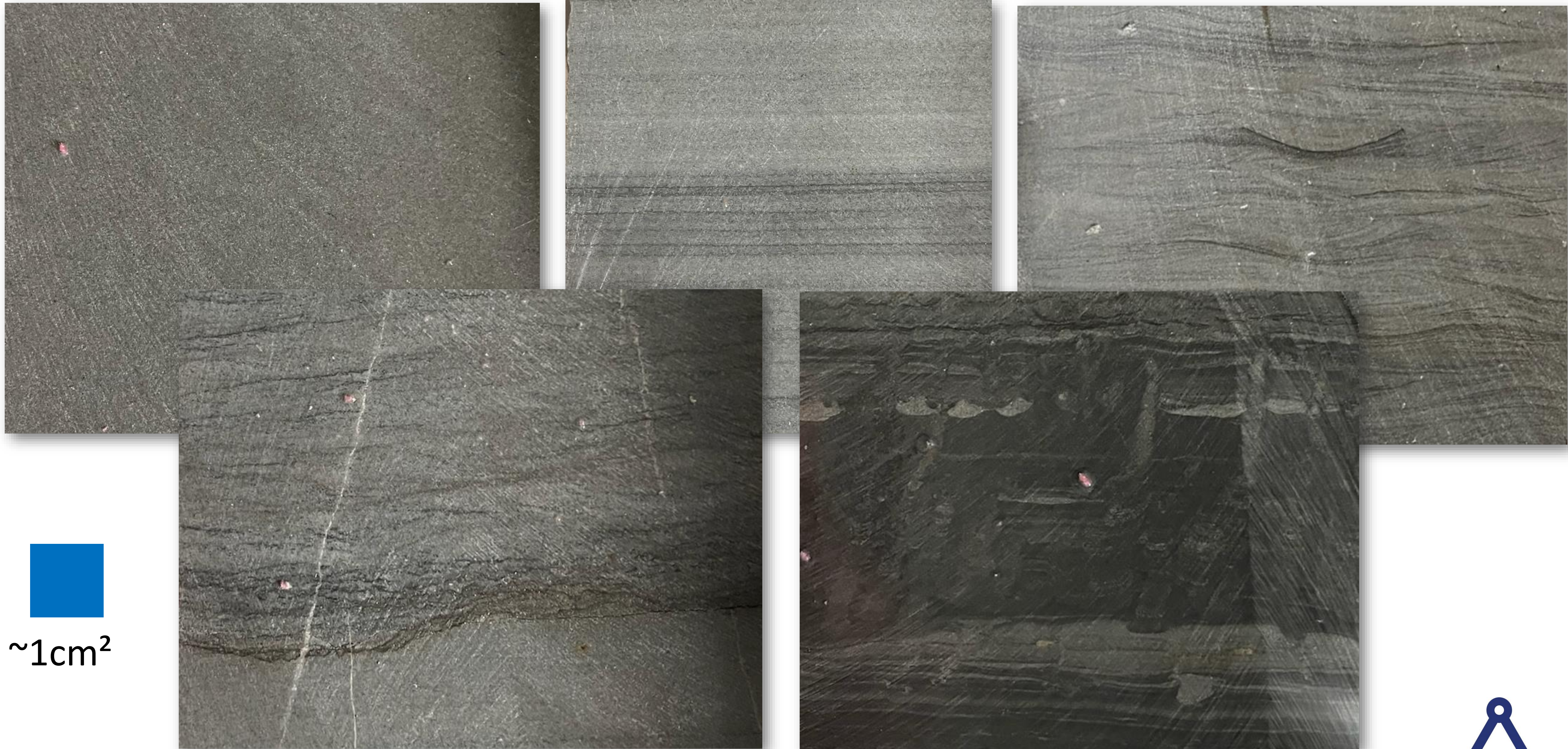


119 MPa

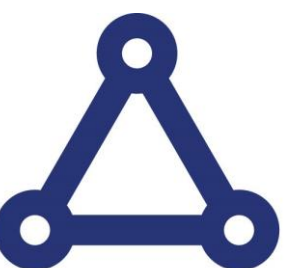


5.28 MPa

“Upper Devonian / Famennian sandstones”




~1cm²



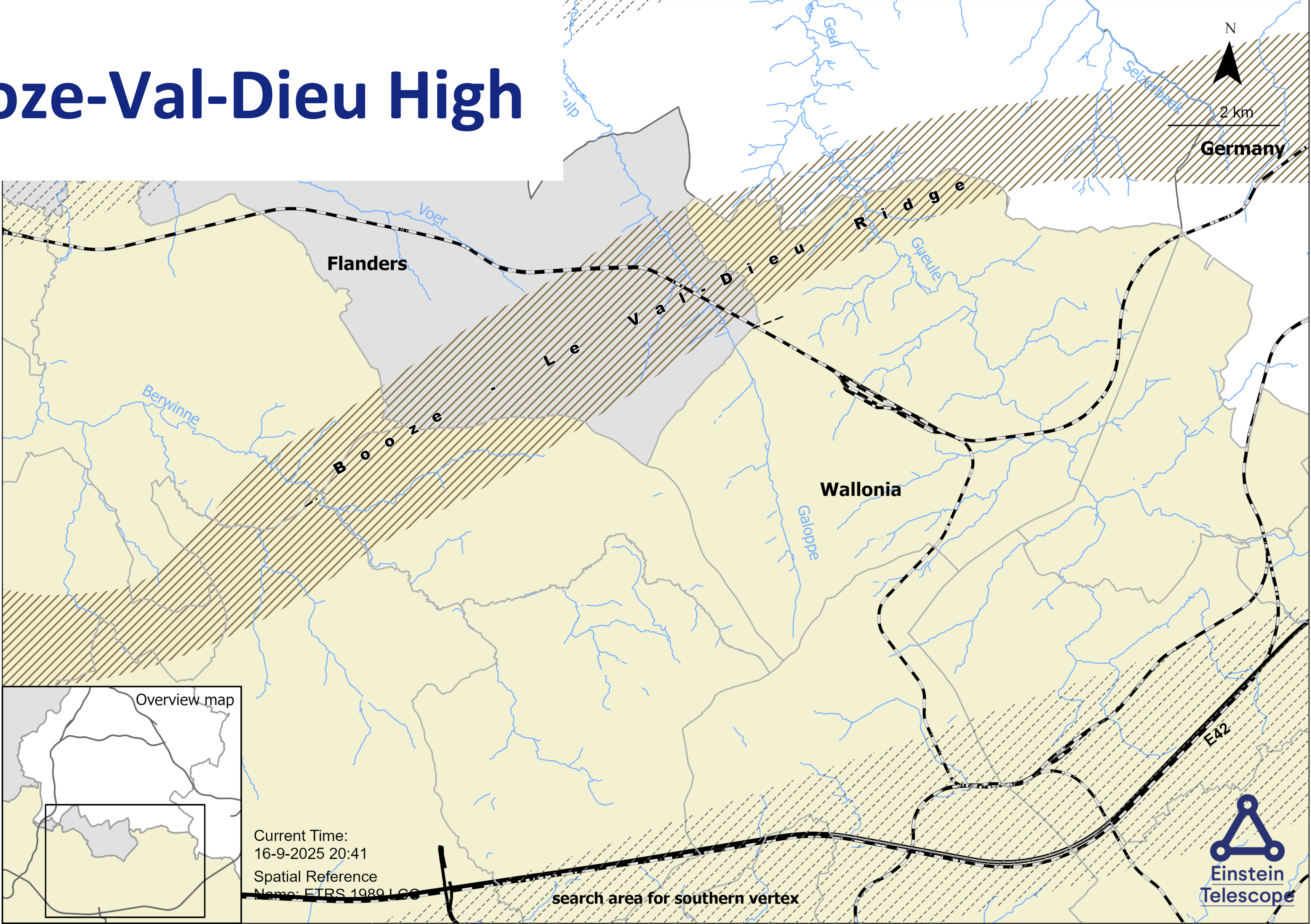
“Upper Devonian / Famennian sandstones”



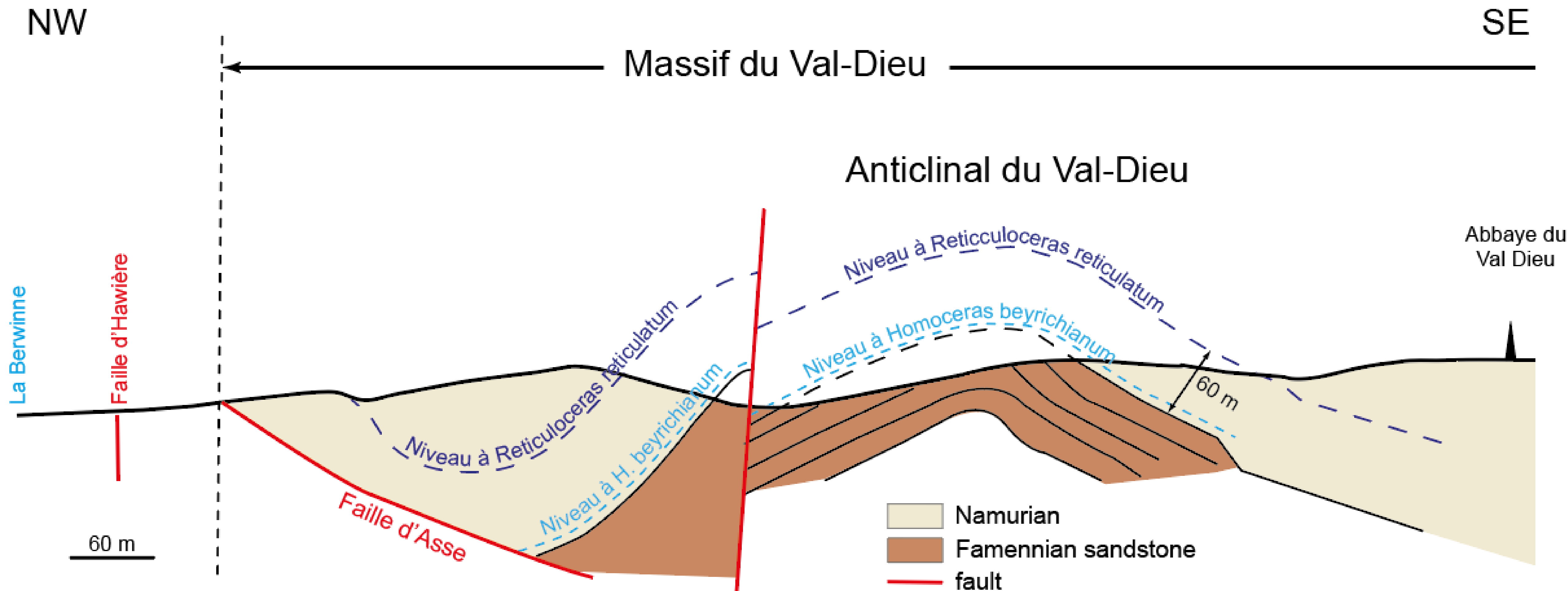
10 km



Booze-Val-Dieu High

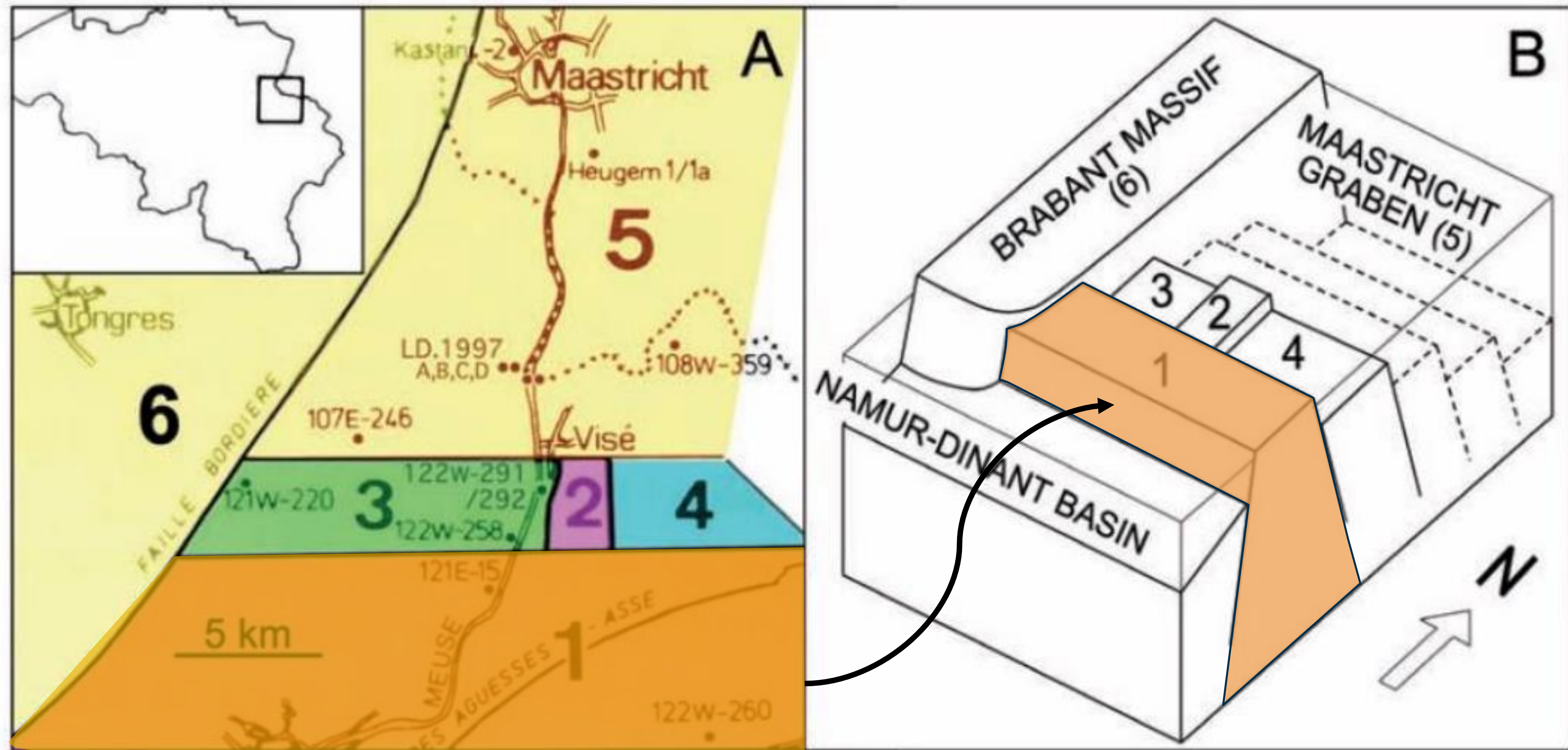


Booze-Val-Dieu: Anticlinal ridge?

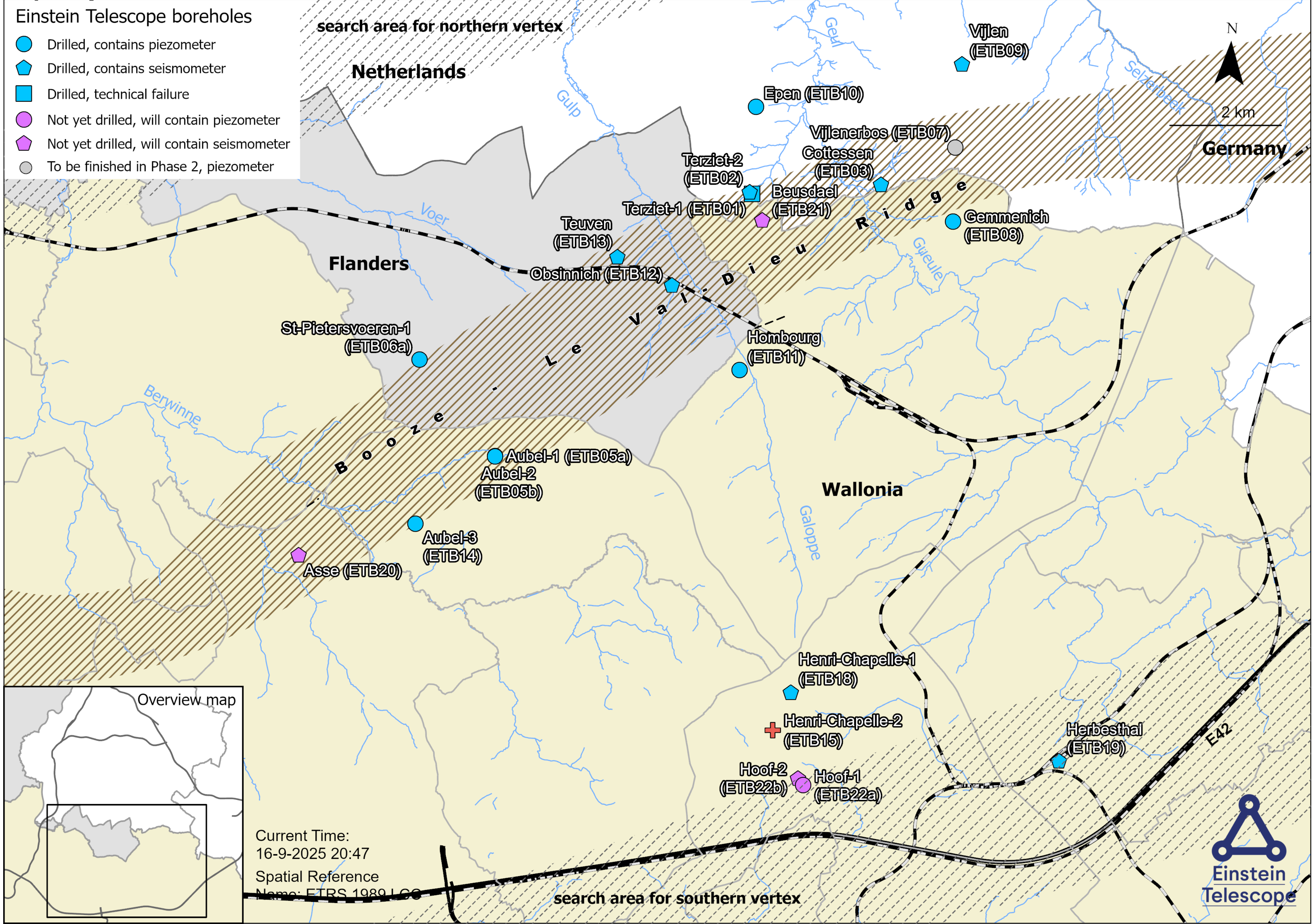


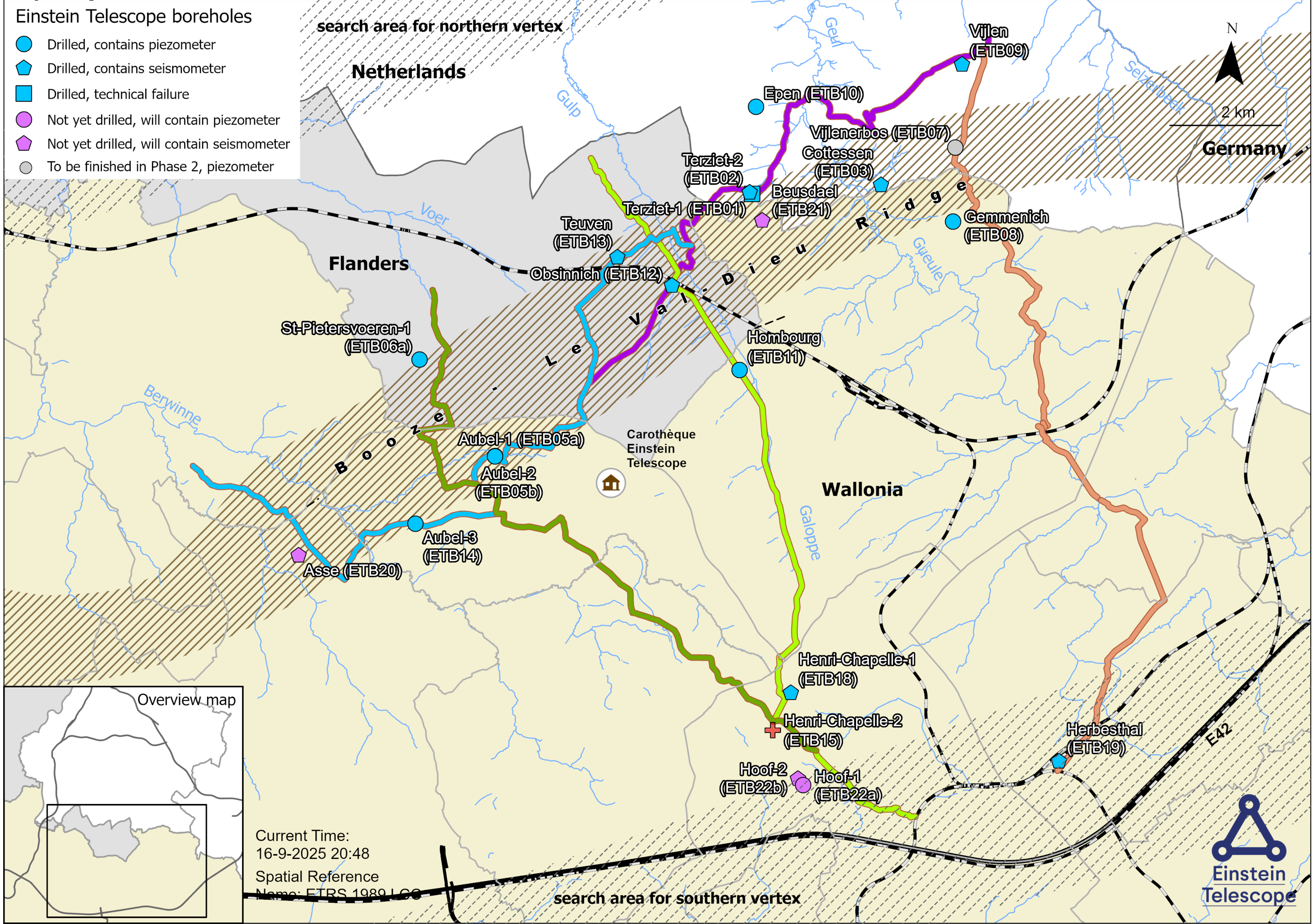
Ancion et al., 1943

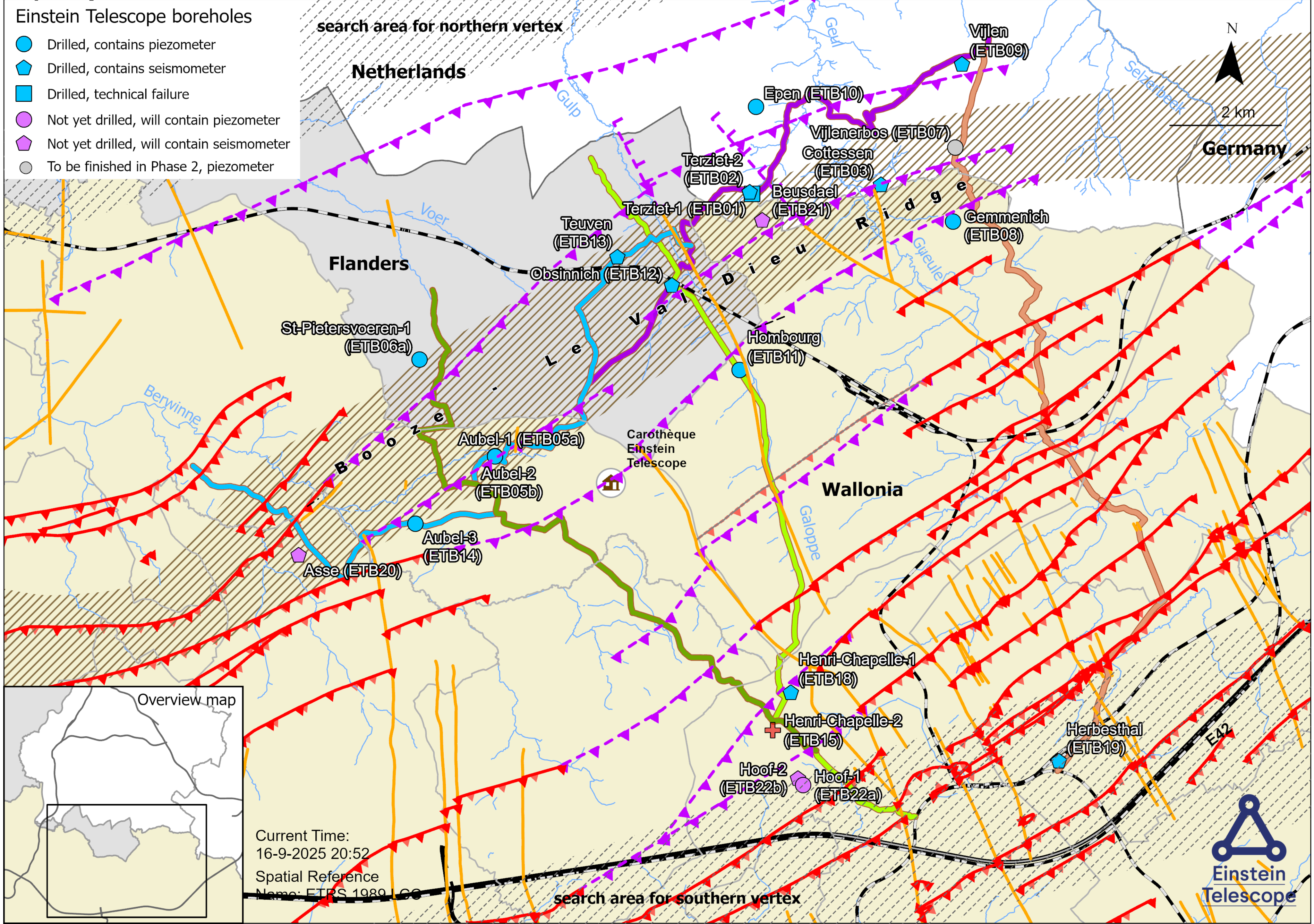
Booze-Val-Dieu: Horst structure?



Poty & Delucée, 2011

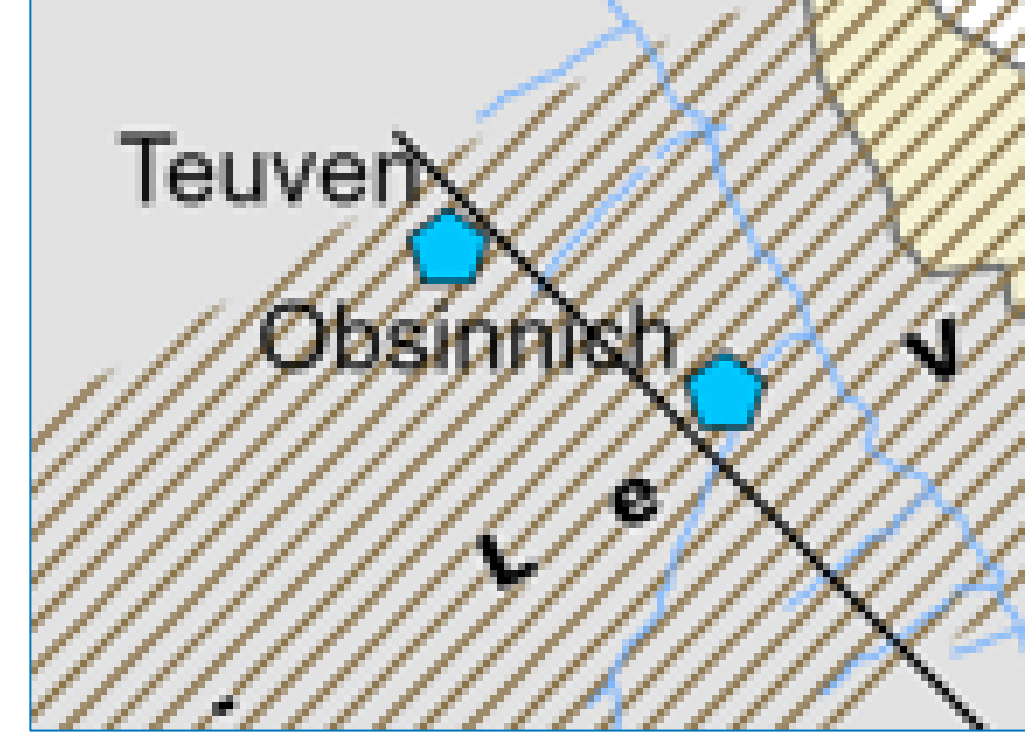
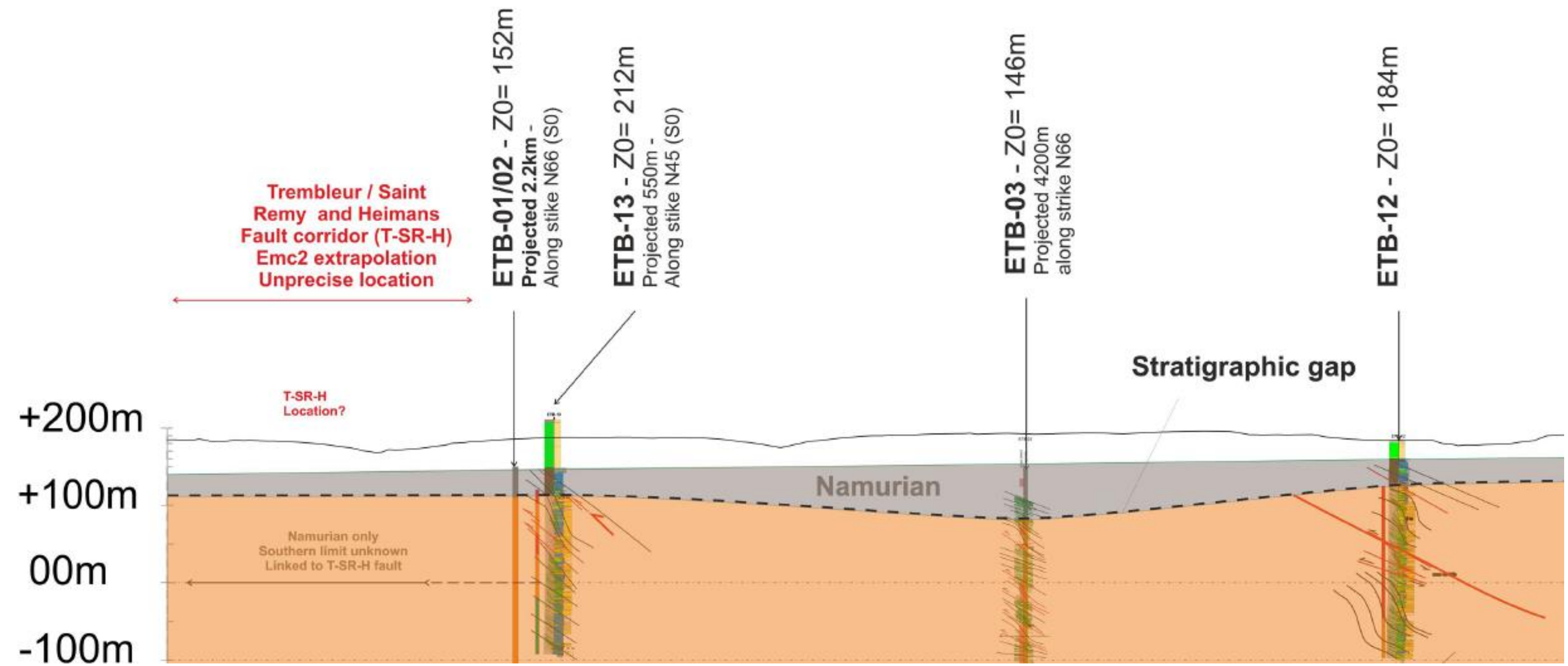






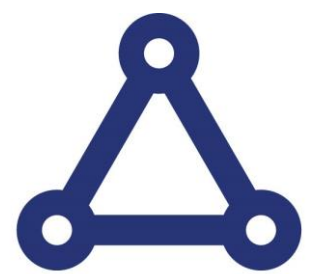
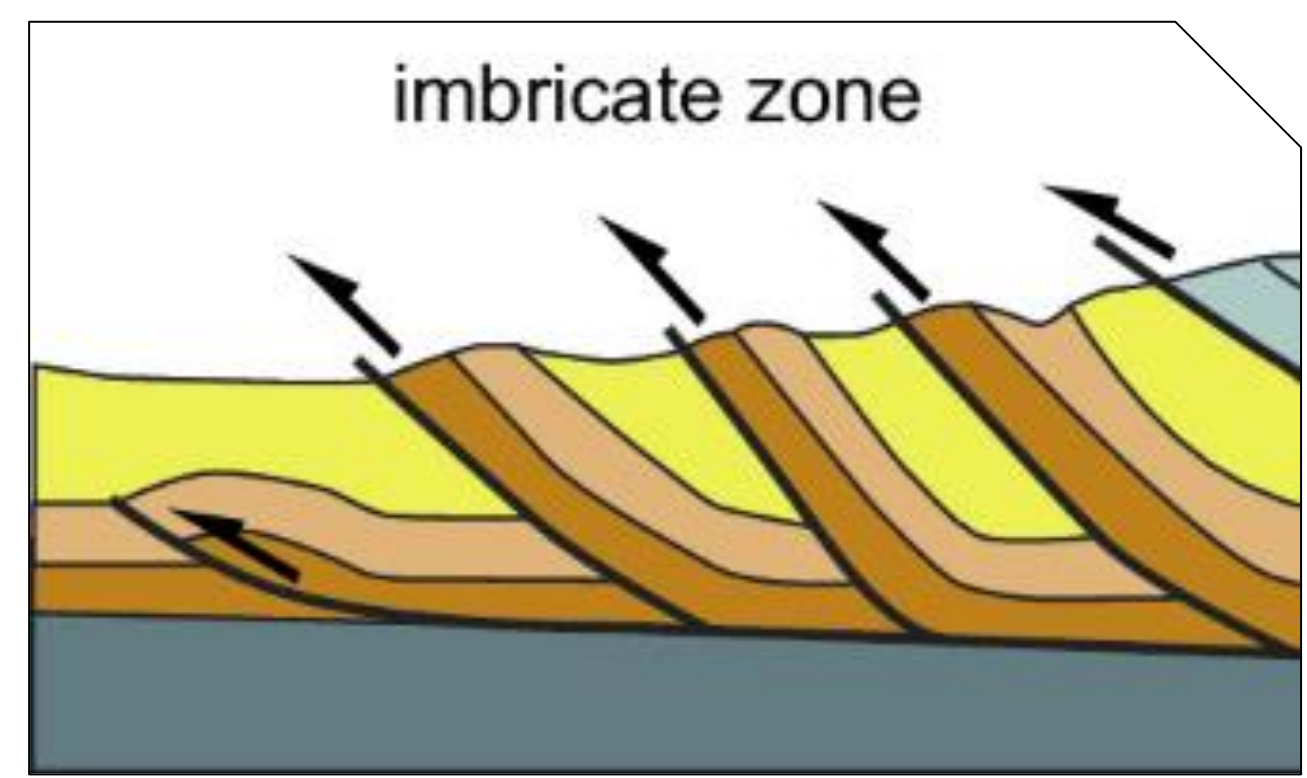
NW

1000m

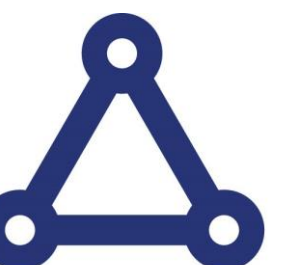
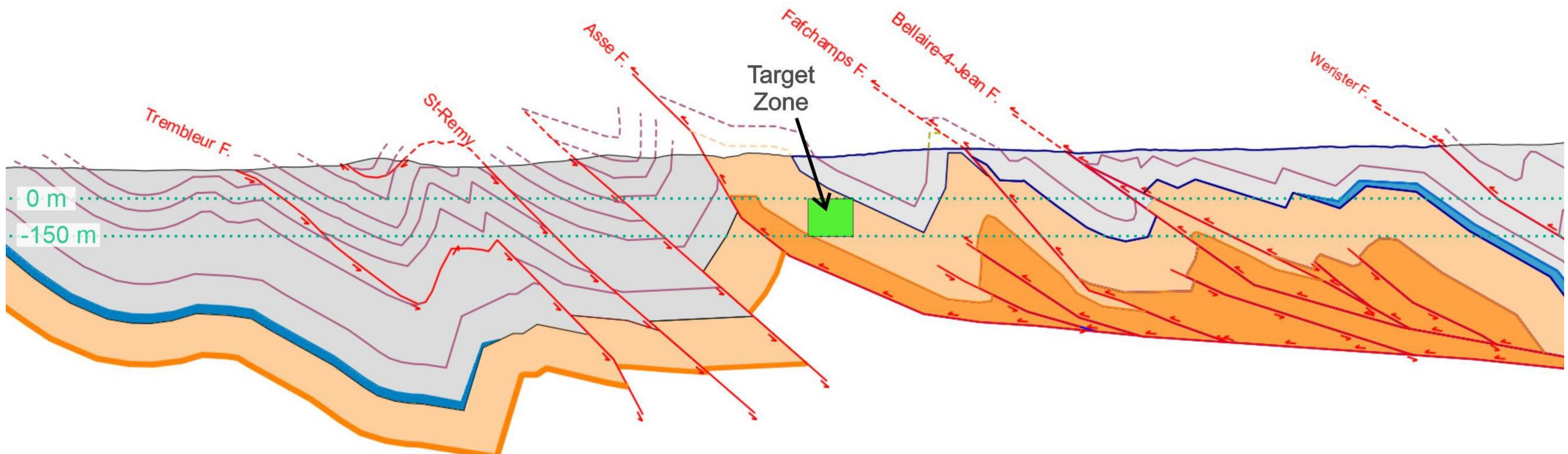


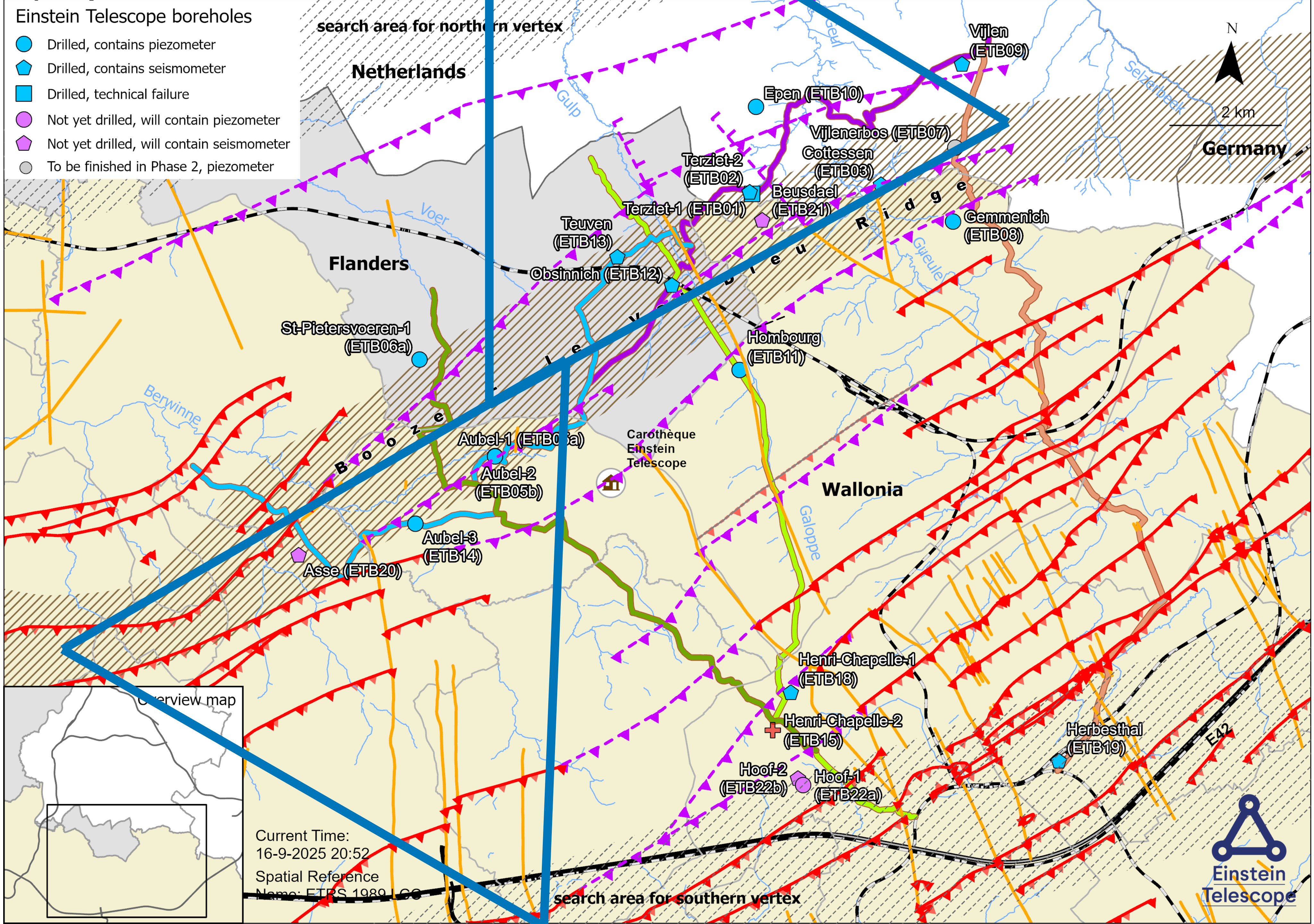
Namurian

Famennian



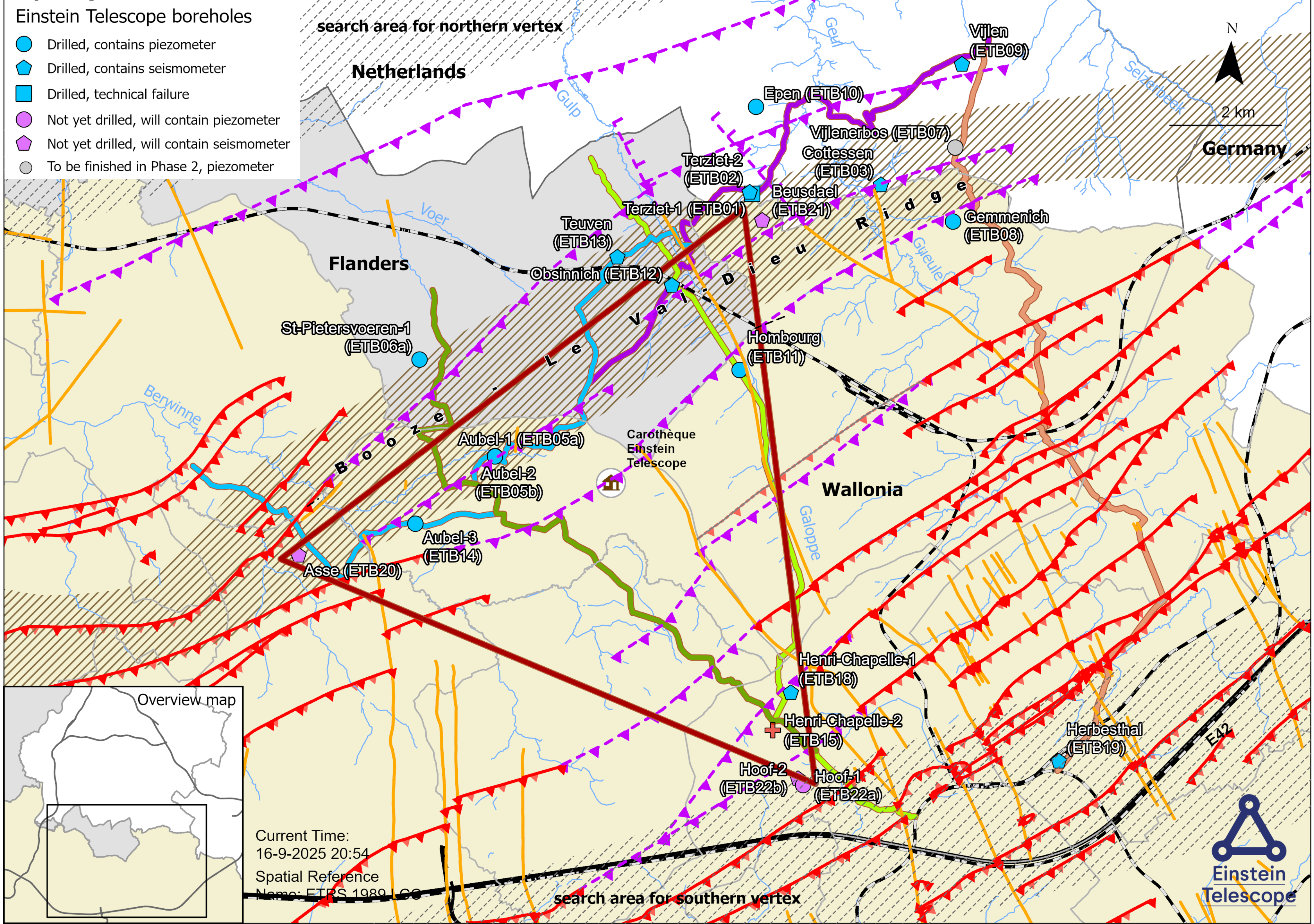
Booze-Val-Dieu: Imbricated sheet thrusts





Einstein Telescope boreholes

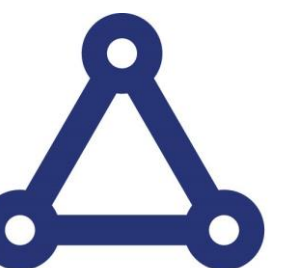
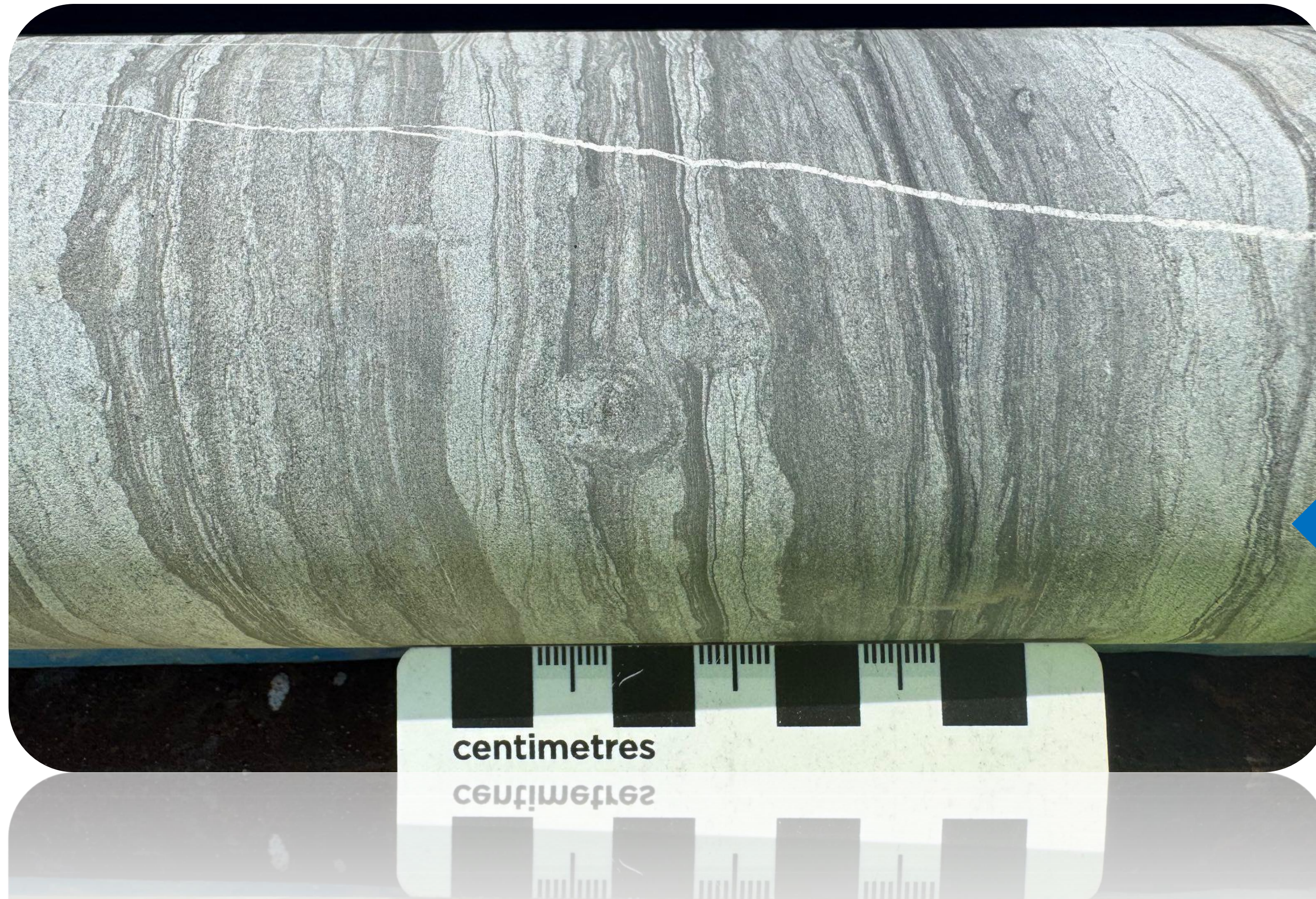
- Drilled, contains piezometer
- Drilled, contains seismometer
- Drilled, technical failure
- Not yet drilled, will contain piezometer
- Not yet drilled, will contain seismometer
- To be finished in Phase 2, piezometer



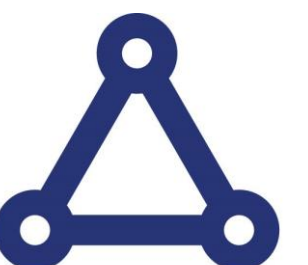
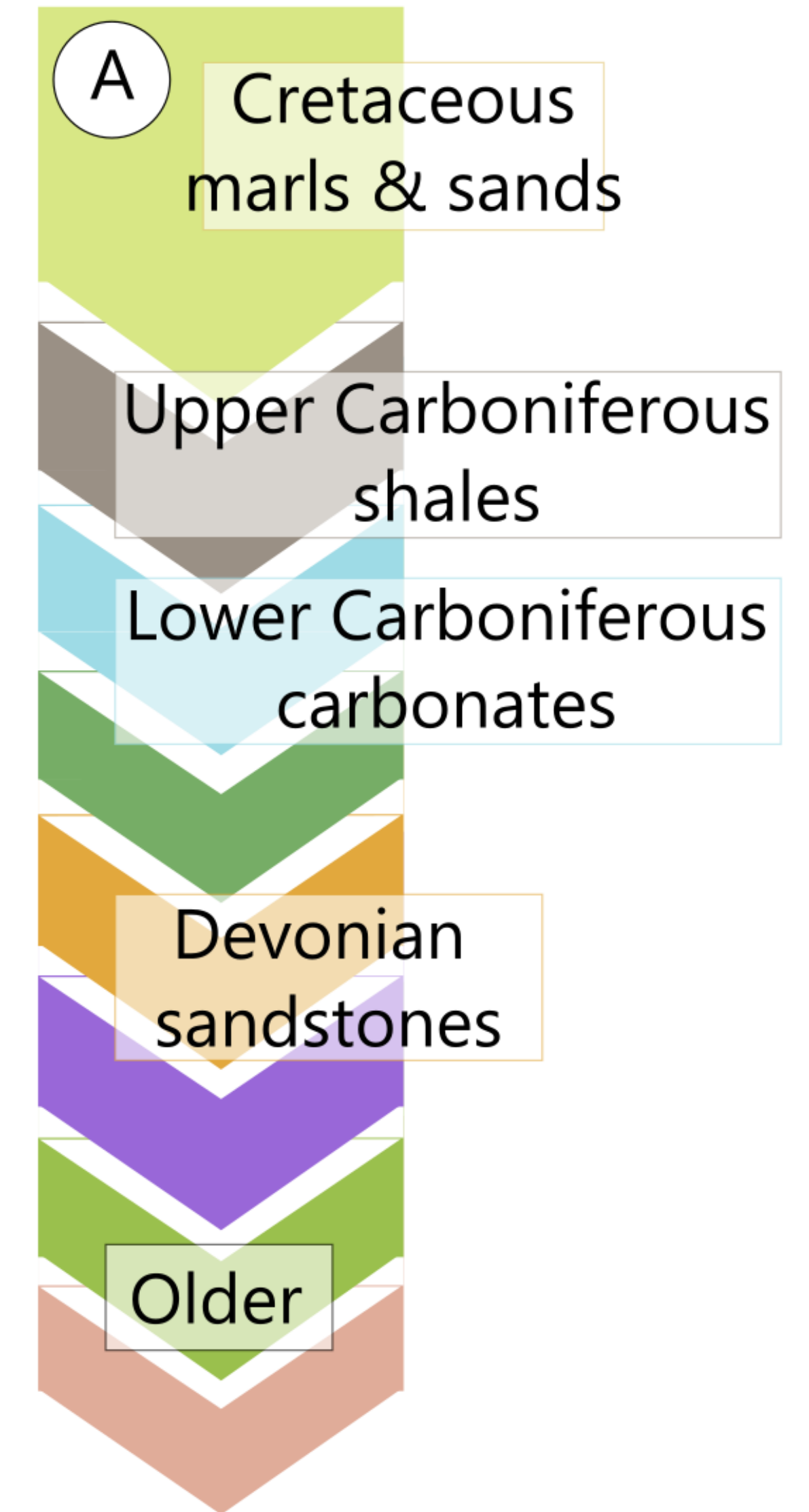
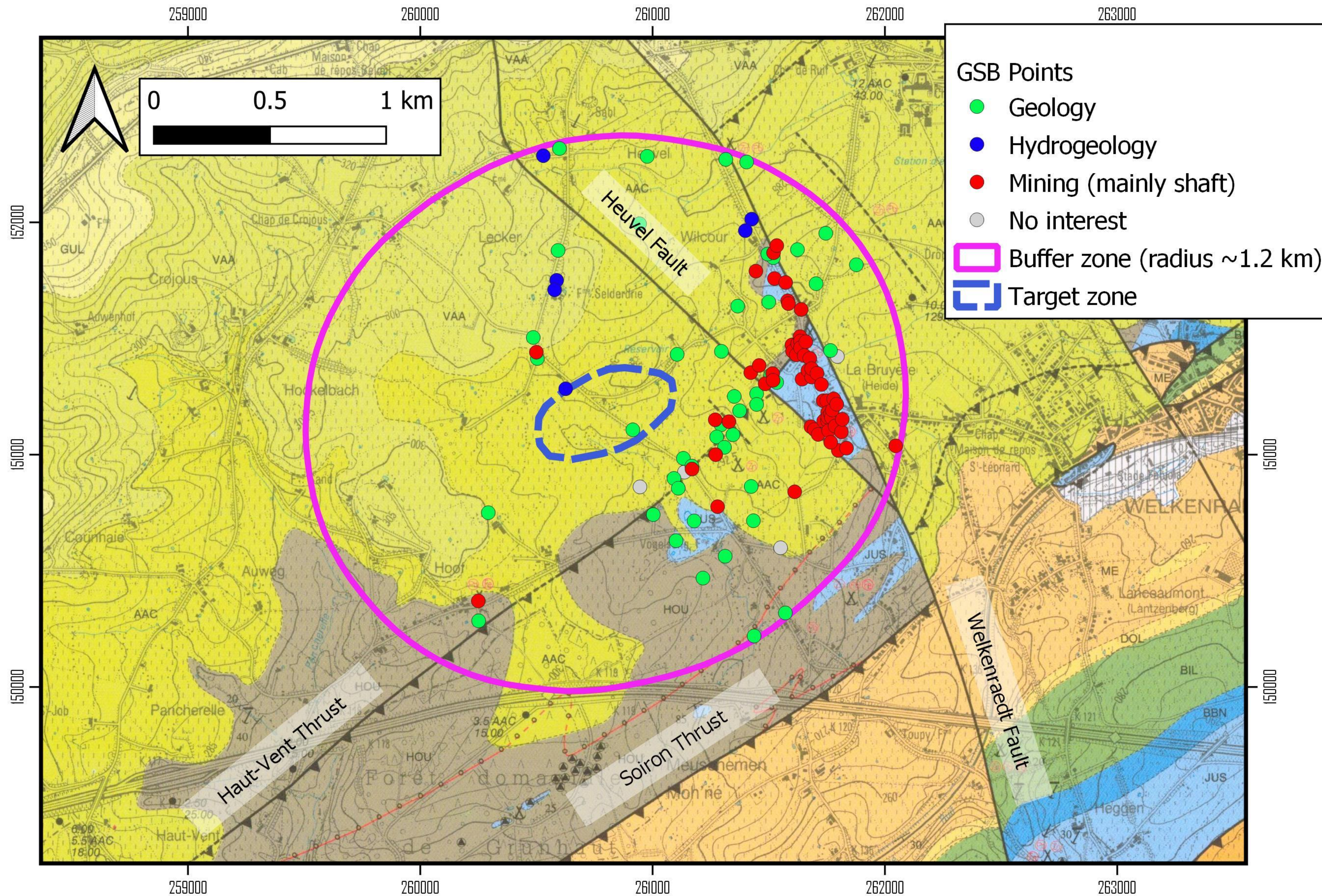
Current Time:
16-9-2025 20:54
Spatial Reference
Name: ETRS 1989 LCC



Drilling location Beusdael

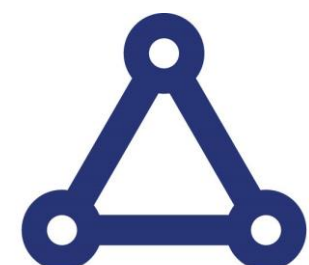
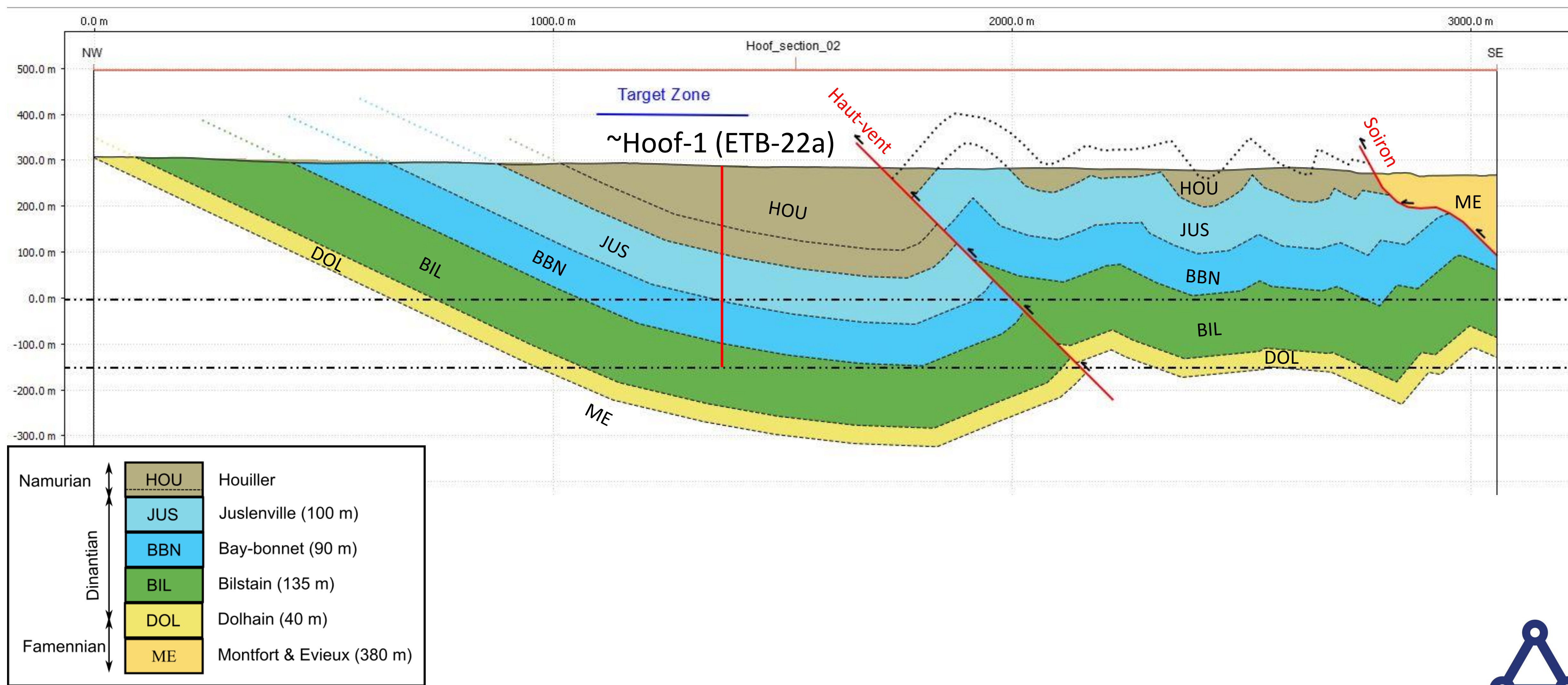


Drilling location Hoof

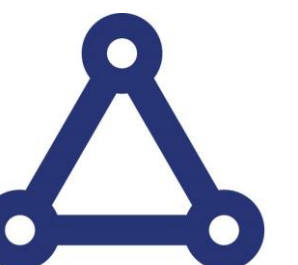
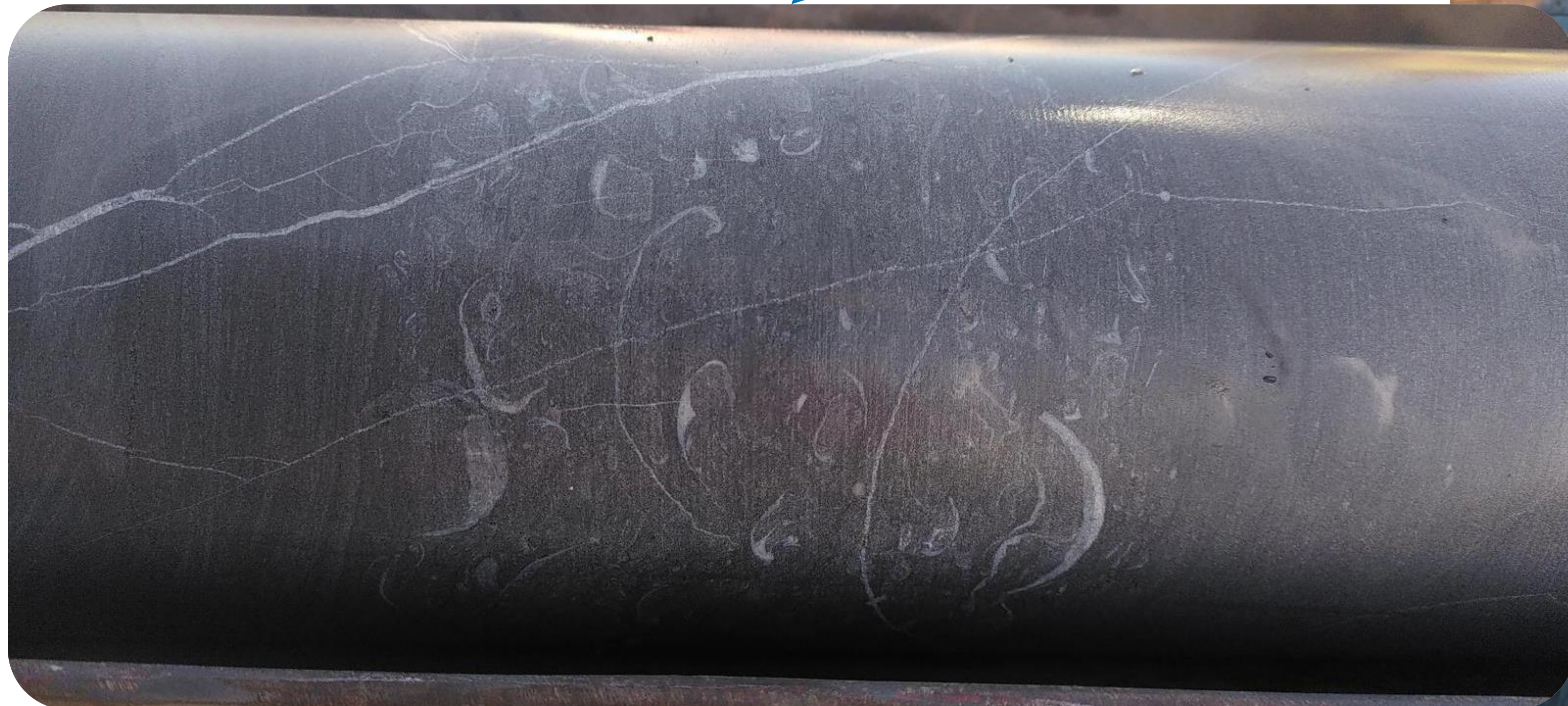


Drilling location Hoof

Target: “Lower Carboniferous / Dinantian carbonates”

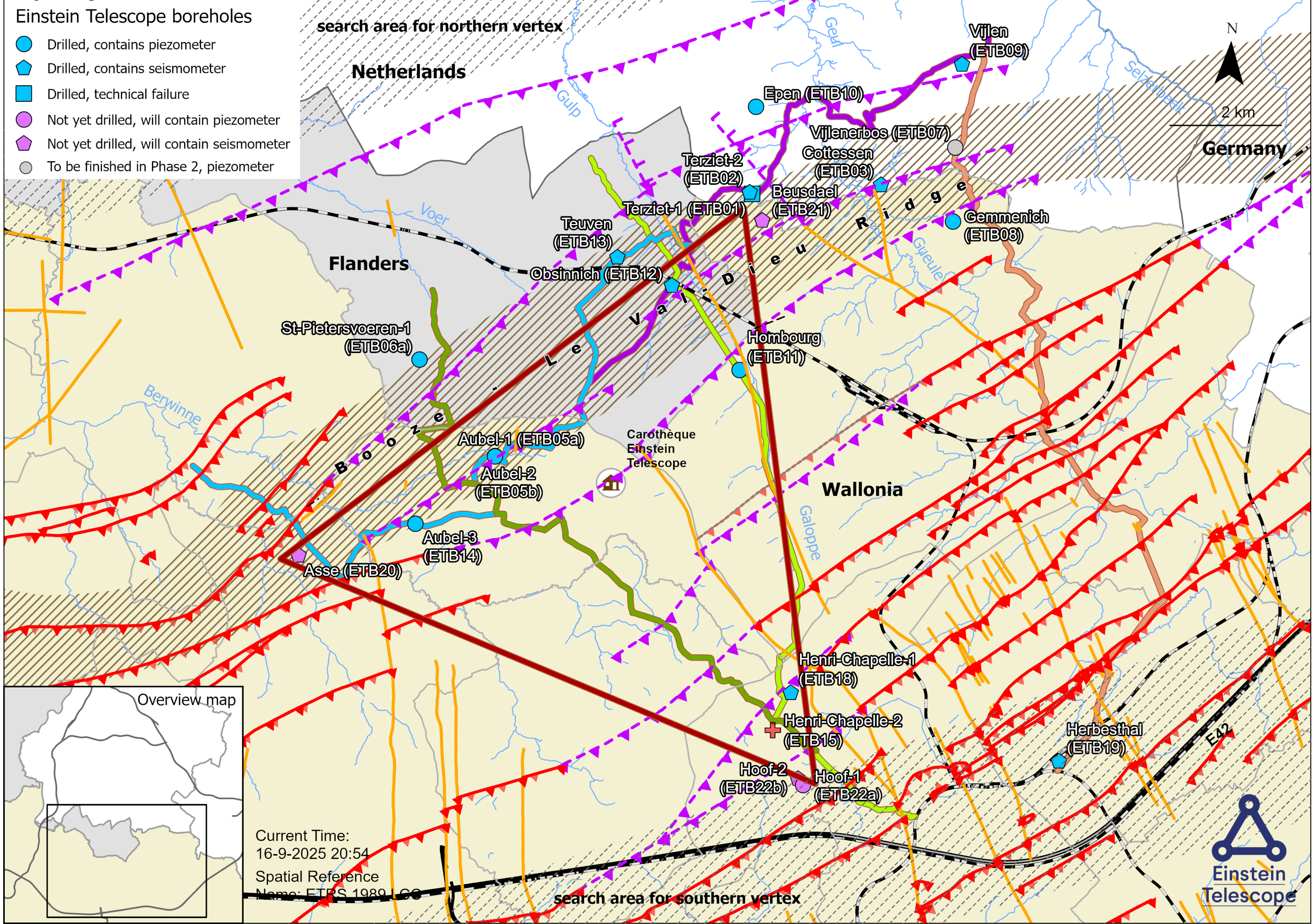


Drilling location Hoof

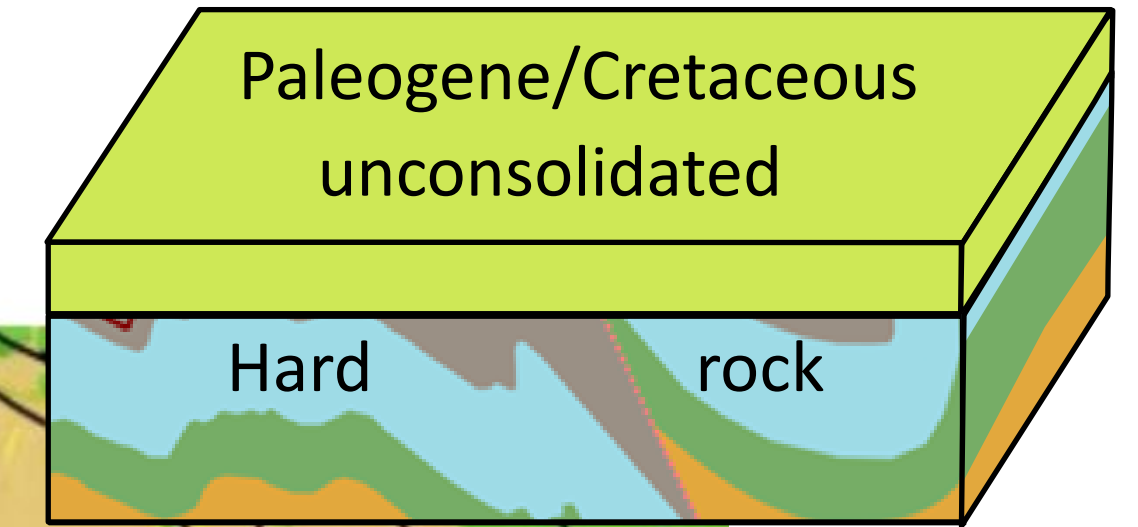
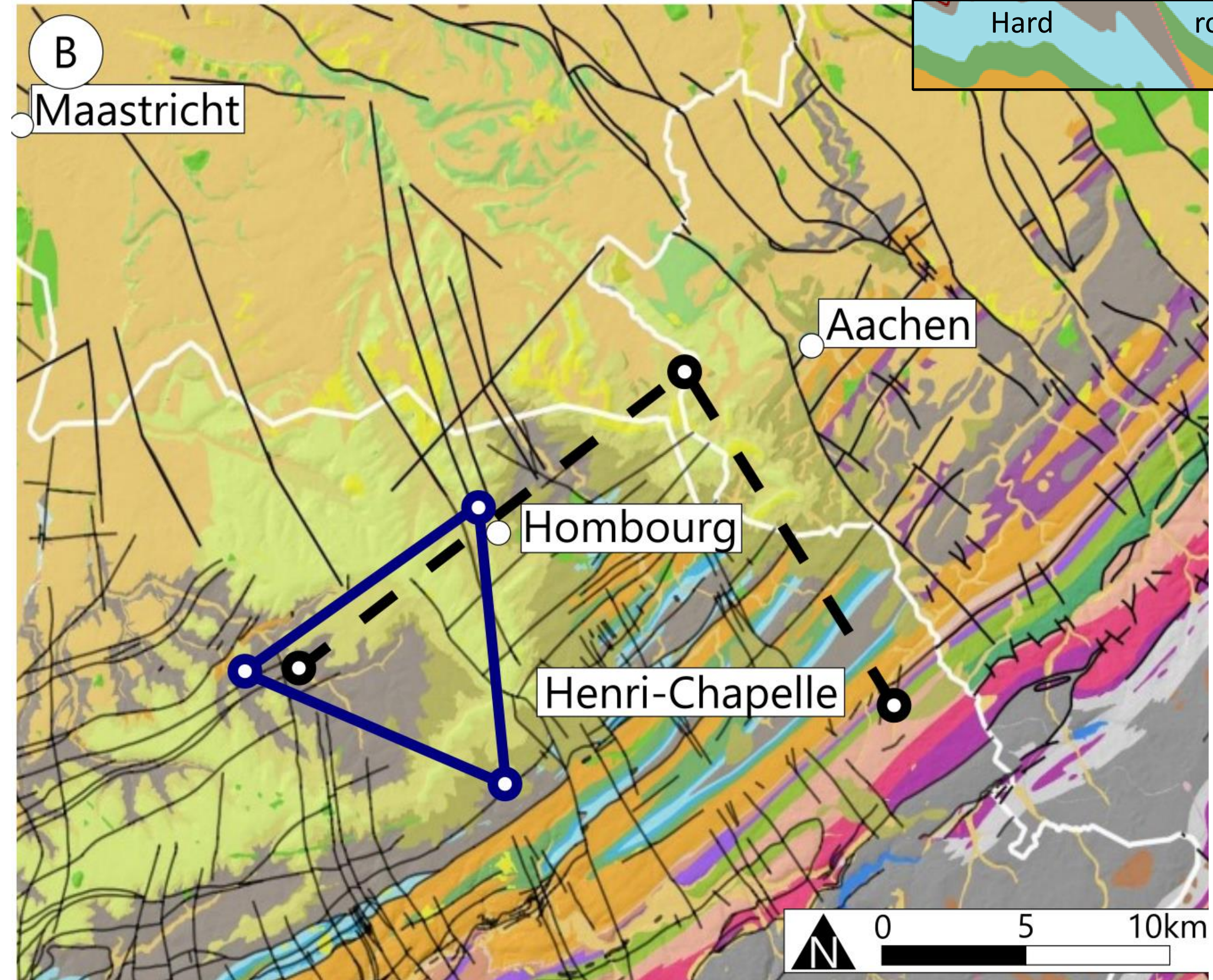
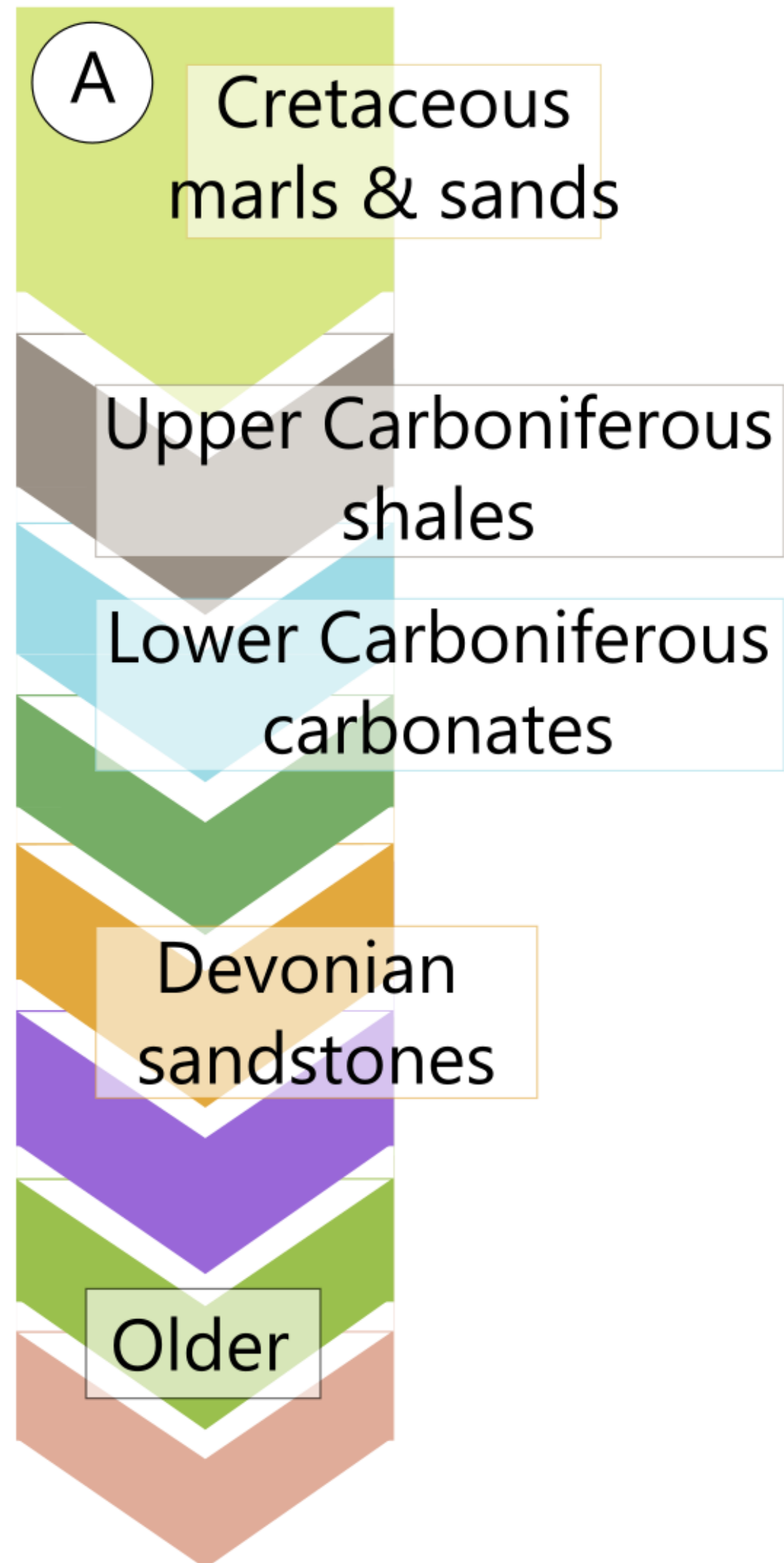


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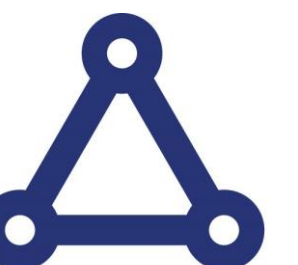
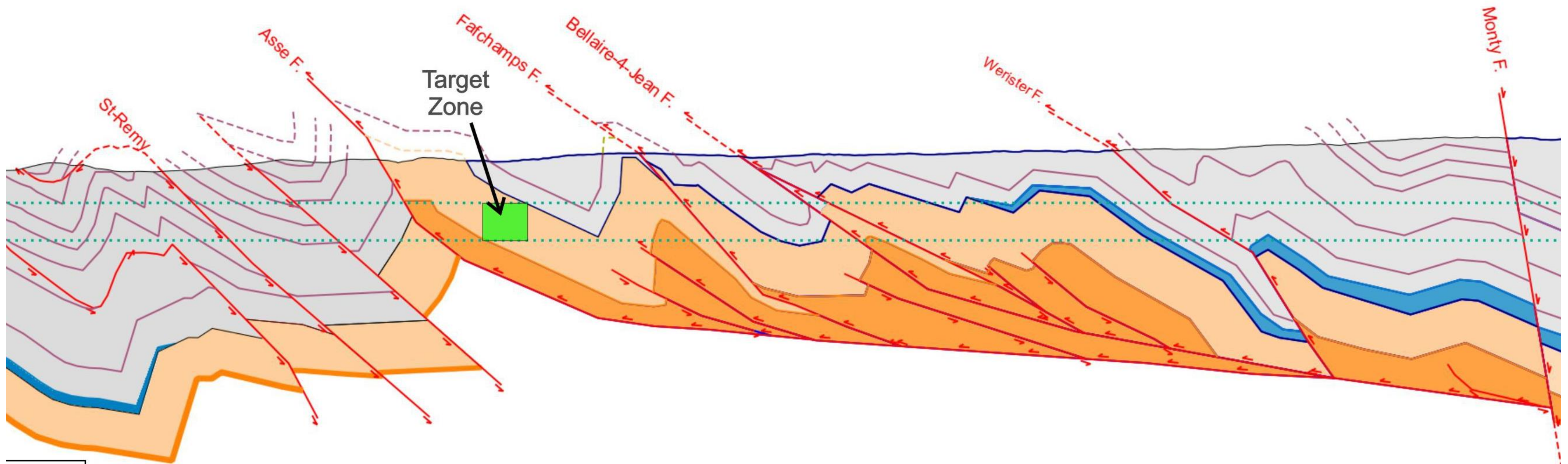
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Geology ET EMR



Booze-Val-Dieu: Imbricated sheet thrusts



Reuse of excavated materials

△ Material requirements depend on **application**

- Concrete aggregate (various classes) – highest applicability level
- Road (sub)base
- Drainage sand
- (Back)fill/embankment – lowest applicability level

△ Typical technical parameters **for concrete aggregates**

- Particle size (clay content) (EN 933-1/2)
- Particle shape (flakiness, angularity) (EN 933-3)
- Density/Water absorption/Porosity (EN 1097-6)
- Abrasion/fragmentation resistance (EN 1097-1/2)
- Chemical properties (chlorides, sulfate, sulfides, organics...) (EN 1744 1/5)
- Freeze-thaw resistance (EN 1367-1)
- Alkali-silica reaction susceptibility (ASTM C1293) Hard



Reuse of excavated materials: One step beyond

ΔMateriNex – ICON bETon project



UPDATE ON GEOLOGY AND OPTIMIZATION OF TRIANGLE POSITIONING IN THE ET-EMR REGION



Claes, Hannes; Vis, Geert-Jan; Vanbrabant, Yves; Deckers, Jef; Burchartz, Raphael; Müller, Alexander;
Vink, Bjorn; Scheltens, Marc; Lagrou, David